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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,057	10/25/2006	Thierry Hyst	28944/40177	9274
29471 7590 02/10/2009 MCCRACKEN & FRANK LLP 311 S. WACKER DRIVE SUITE 2500 CHICAGO, IL 60606				
EXAMINER WALBERG, TERESA J				
ART UNIT		PAPER NUMBER		
3744				
MAIL DATE		DELIVERY MODE		
02/10/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,057

Applicant(s)

HYEST, THIERRY

Examiner

Teresa J. Walberg

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 10-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 October 2008 and 25 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10, 12, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Otake (4,304,295).

Otake discloses a heat exchanger (Fig. 1) including an enclosure provided with a plurality of tubes (1) in which a heat transfer fluid circulates, the fluid conveying cleaning balls (col. 1, lines 9-18), feed and outlet collectors joined to the enclosure via a first and second side wall of the enclosure opposite each other (Fig. 1), the outlet collector (5,7) being in the form of a single piece having a first portion forming a flow converger (where the tubes 1 join the manifold 5) and a second portion forming a nozzle (the unitary connection pipe between the manifold and the ball separator 7) joined to the flow converger (Figs. 2 and 3), the outlet collector (at the upper portion of 5) having a downstream mouth by which it is joined to a heat transfer fluid discharge pipe (the lower portion of 5), a separation device (7) placed in the second portion of the outlet collector in order to separate the cleaning balls from the fluid, the device including at least two pairs of grids (15 in Fig. 4) mounted to rotate on a spindle (21), the spindles (21) being pairwise parallel to one another, the separation device (7) forming a filtering structure that converges on a recovery device placed in the second

portion to recover the cleaning balls (11, 9), the grids having a W shaped profile converging on the recovery device (see embodiment of Fig. 6), the grid having a row of spaced apart parallel blades (16 in Fig. 5), a plurality of coaxial spacers together form the spindle (21) for supporting each grid (Fig. 4).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11, 13, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otake (4,304,295).

Otake discloses a heat exchanger having the claimed structure with the exception of the first portion having a rectangular cross section and the central blades of the W being longer than the outer blades.

However, it is conventional in the art to give heat exchanger manifolds a rectangular cross section. It would have been obvious to one of ordinary skill in the art to give the upper portion of the manifold 5 of Otake a rectangular cross section, or any other desired cross section, based on the intended use of the device and the space available for the device installation. It would have been obvious to one of ordinary skill in the art to give the central blades of the ball

filtering grid greater length, the motivation being to reduce the blocking of the central portion of the heat exchanger outlet flow.

5. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otake (4,304,295) in view of Koller (4,385,660).

Otake discloses a heat exchanger having the claimed structure with the exception of a system to cause the grids to rotate when the pressure difference is greater than a predetermined value. However, Koller discloses a system for causing the grids to rotate (col. 7, lines 47-50) and teaches actuating this rotation in response to "an increase of ... resistance to flow" (col. 5, lines 40-52). It would have been obvious in view of Koller to rotate the grids of Otake for cleaning in response to pressure difference, the motivation being to prevent clogging of the outlet flow path of the heat exchanger.

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The abstract of the disclosure is objected to because it should not contain phrases such as "the invention relates to" or the legal phraseology "comprising" and "said". Correction is required. See MPEP § 608.01(b).

8. Applicant's arguments filed 30 October 2008 have been fully considered but they are not persuasive.

Applicant argues that Otaki is a schematic depiction of the device. However, this is not seen to be relevant, since Otaki depict the device with sufficient detail to meet the terms of the claims. Note that claims are given their broadest reasonable interpretation during examination and that structure described in the specification or depicted in the drawings is not read into the claims.

Applicant argues that it is unknown how the tubes within the heat exchanger 1 connect with the outlet tube 5. However, the claims do not appear to require any specific connection structure between the tubes and the outlet tube, just that a connection be present. Otaki clearly shows that the tubes (1) are connected to the outlet (5).

Applicant argues that element 7 is a separator, not an outlet collector and that the outlet collector should be considered to be the portion between parts 1 and 5. Since element 7 is located at the outlet and collects the cleaning balls, it meets the terms of the phrase "outlet collector". Note that claims are given their broadest reasonable interpretation during examination and that structure

described in the specification or depicted in the drawings is not read into the claims. The portion of a heat exchanger joining a group of parallel flow heat exchanger tubes to a main flow passage is commonly referred to in the art as a "header" or "manifold". Note also that even if the outlet collector is considered to be considered to be the portion between parts 1 and 5, the claim limitation are still considered to be shown by Otake.

Applicant argues that Otaki does not show "the outlet collector being produced as one part in the form of a single piece having a first portion forming a flow converger and a second portion forming a nozzle that is joined to said flow converger". Otaki shows in Fig. 1 the outlet collector (whether one considers the outlet collector to be part 7 or the joint between parts 1 and 5) being in one part in the form of a single piece. Note that the phrase "in the form of a single piece" is not considered to preclude the single piece from having been assembled from a plurality of other pieces.

Also, since the claims are apparatus claims, the phrase "being produced" is considered to be a product by process limitation, which is met if the product has structure such that it could have been made by that process, whether it actually was or not. Otaki is considered to show an outlet collector (5, 7) being produced (interpreted to mean manufactured or assembled) as one part (the device of Otaki is shown as being in the form of one part in Fig. 1) in the form of a single piece (the device is shown as being in the form of a single piece in Fig. 1) having a first portion (the manifold in the upper portion of part 5) forming a flow

converger (for the flow from tubes 1) and a second portion forming a nozzle (the unitary connection pipe between the manifold and the ball separator 7)(note that the claims do not specify any particular structure for the nozzle, such as the nozzle being an expansion nozzle, a flow converging nozzle, or a nozzle having constant diameter) that is joined to (Fig. 1) said flow converger (the manifold connection between tubes 1 and flow channel 5).

Applicant argues that Otake has disadvantages that have been remedied by the present claimed invention. However, examination of claims is based on the claimed structure and not on disclosed advantages.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/
Primary Examiner, Art Unit 3744

/TW/